

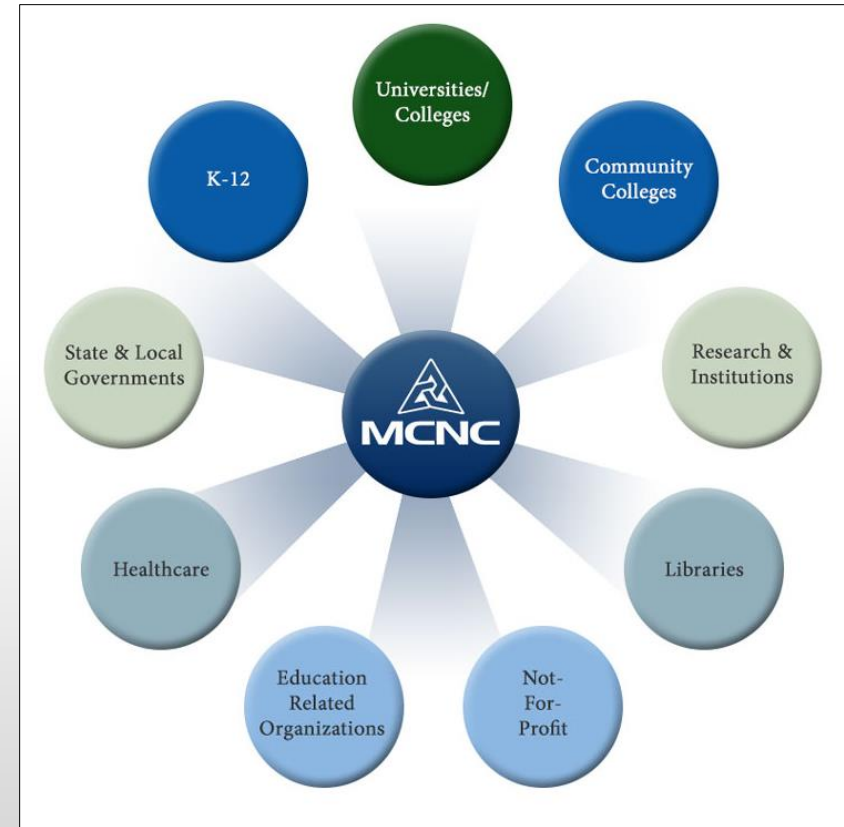
North Carolina Research and Education Network

THE QUILT

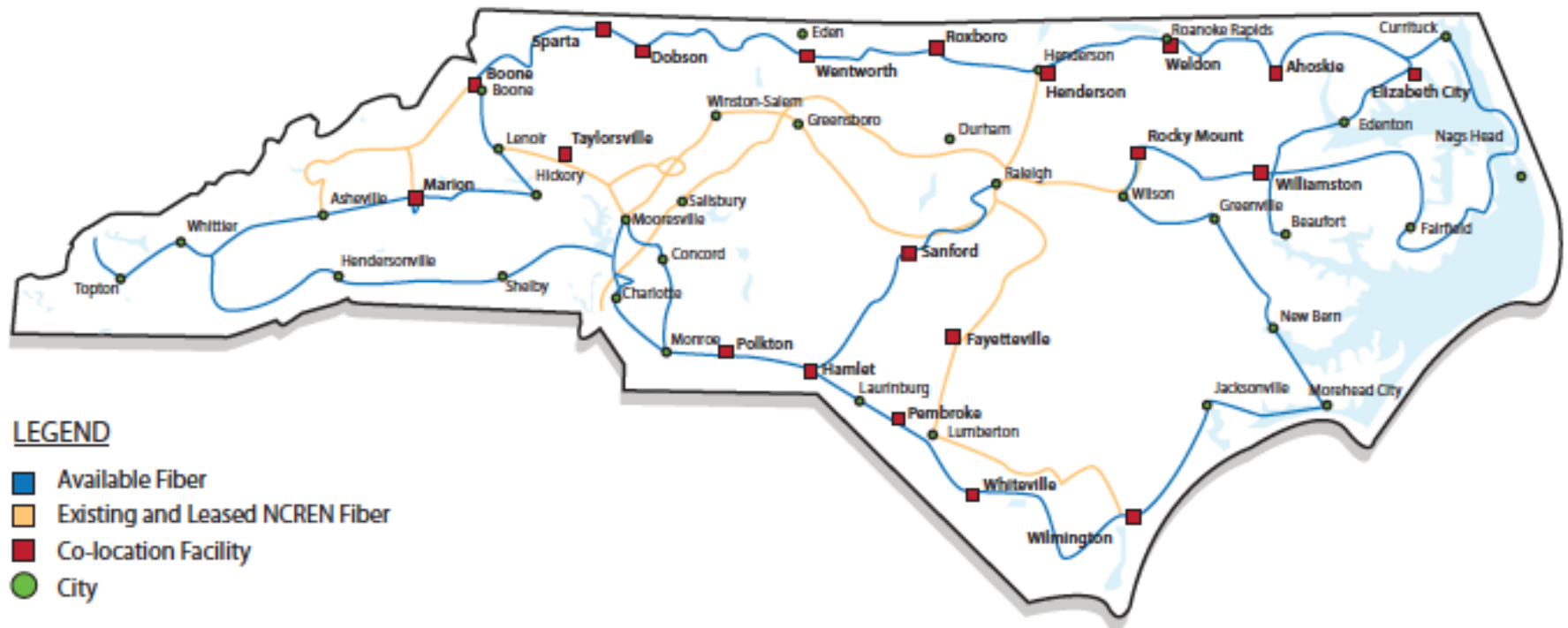


Who We Serve...

- 17 UNC System Institutions
- 26 of 37 independent colleges and universities
- 58 Community Colleges
- 115 Local Education Agencies
- (All School Districts)
- 45 Charter Schools
- Healthcare
 - 30 Hospitals (Non Profit)
 - 70 County Health Agencies and Free clinics
- RTI, NISS, NHC, Burroughs Welcome Fund, Bio Tech Center, other research institutions



Map of Build



**Handholes/interconnection points are available approximately every 5,000 feet or less as needed.*

K-12 Connections “To The Building”

Category	Number
Districts	115 (all connected to NCREN)
District Connectivity	All fiber based All Scalable to 1G
District Connectivity	54 with direct fiber
Schools	2400
Schools with fiber	2270
School WAN	Premise routing gear in place 10 M/100 M routing to each fiber based school
School WAN	MCNC consulting engineering practice has engaged each district
Public Charters	45 of 120 connected
Public Charters	Premise routing gear in place for 10M/100M



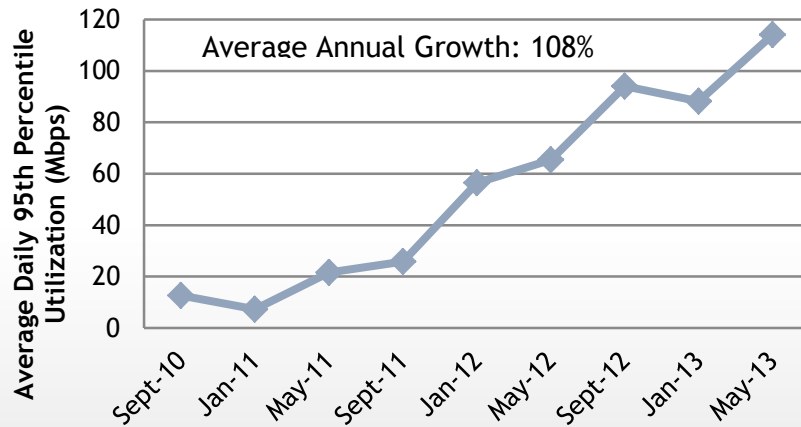
K-12 Connections “To The Building”

Category	Quantity
Total schools	2331
Schools with 1 WAP per classroom (high)	515
Schools with 1 WAP per 2 classrooms (int.)	928
Schools with 1 WAP per 3 classrooms (low)	818
Schools with 1 to 1 student/device ratio	371 (all in high density)

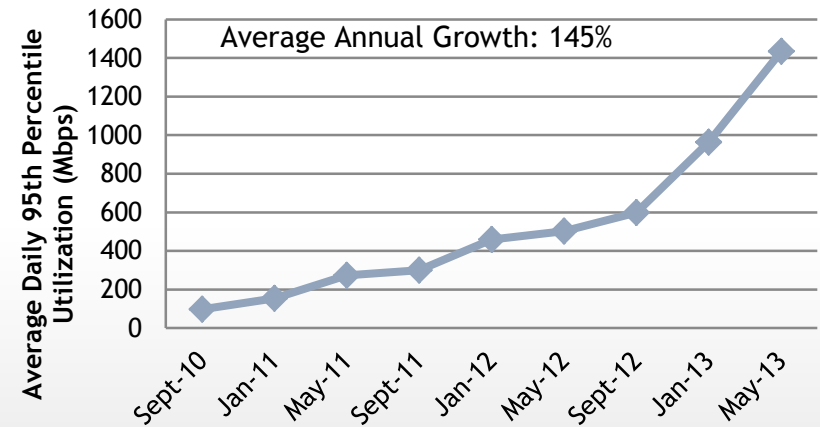


Sample Districts – Bandwidth Utilization

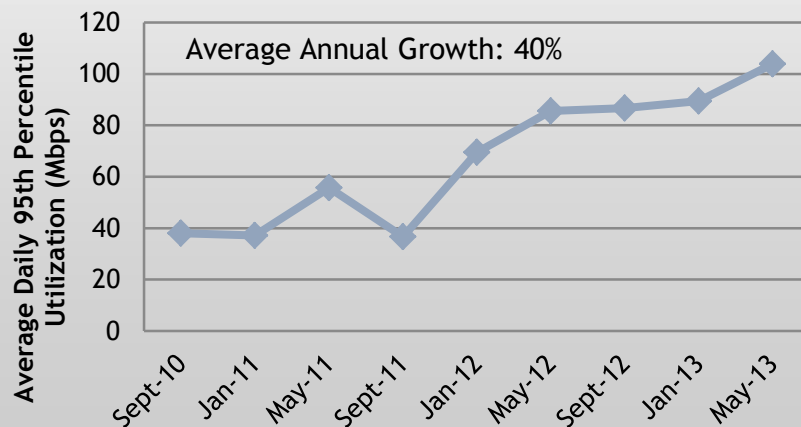
Avery County Schools



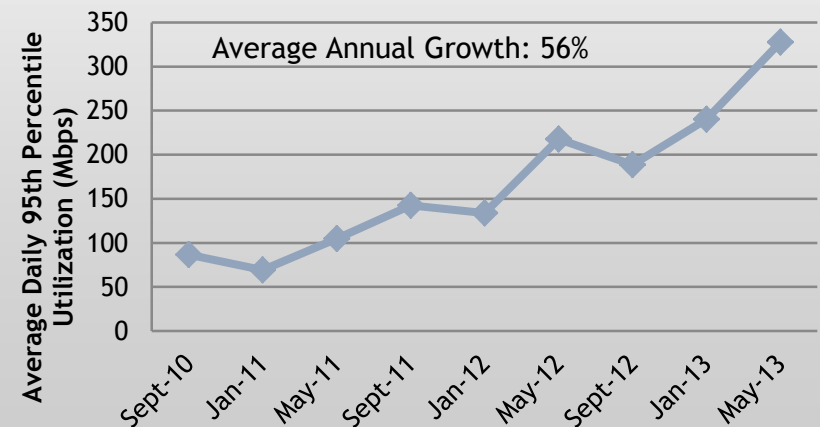
Cumberland County Schools



Halifax County Schools



Mooreville Graded



Financial Comparison – SCI vs. Before

Category	2006-2007	May 2013	
Total Bandwidth Consumption K-12	7G	45.45G	650% increase
Enrollment	1,390,168	1,474,434	
Consumption per Institution (40 charters and 115 LEAs)	28 M/month	253 M/Month 36K per student daily	
Total WAN and Internet Cost	\$13,000,000	\$14,000,000	7% decrease
Cost per MG	\$155	\$16.50 for LEA \$54 for Charter	
Added Services Firewall and Filtering	Not addressed in an aggregated fashion in 2006	\$1.37 per student	Couldn't track how much NC LEAs were spending in 2006-07

Numbers are kept by E-rate Division of DPI



MOREnet Connects Missouri

THE QUILT



Missouri CAIs and MOREnet

- Of the total CAIs in Missouri, MOREnet connects:
 - 86% of Missouri's 520 public K-12 school districts
 - 90% of Missouri's 146 public libraries
 - 93% of Missouri's 14 public 4-year higher education institutions
 - 48% of Missouri's 25 public 2-year higher education institutions
 - 43% of Missouri's 61 independent higher education institutions
 - 3% of Missouri's 540 private/parochial schools (a new market for us)



MOREnet's R&E Value Proposition for K-12 Connectivity (cont'd)

- Since losing ~\$14M in state funding in FY11, MOREnet has retained nearly 90% of our connected K-12 members
- From FY12 to FY13, public K-12 member bandwidth grew a whopping 67%
- In the last 24 months alone 73% of our K-12 sites upgraded their bandwidth

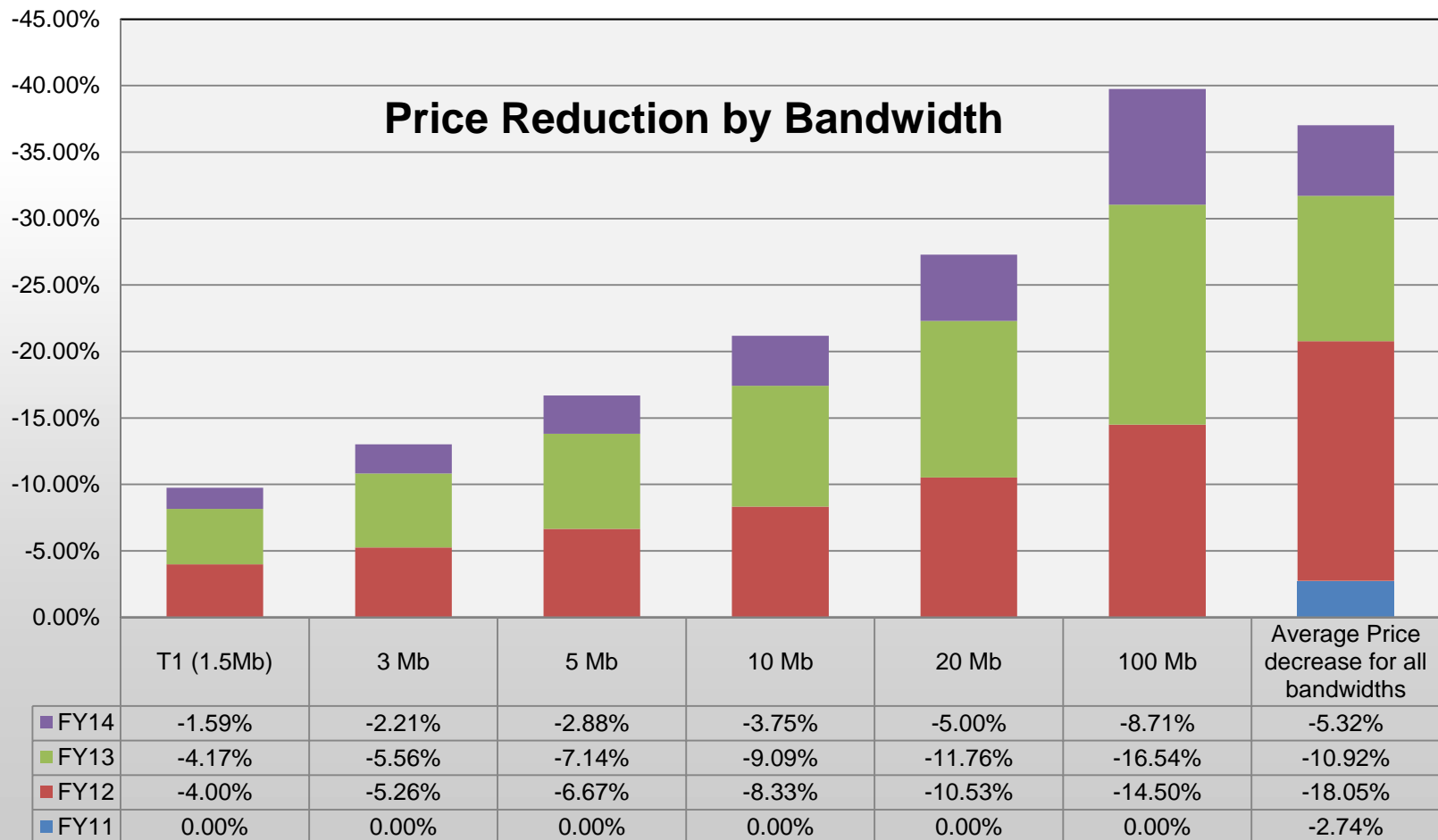


MOREnet's R&E Value Proposition for K-12 Connectivity

- Members enjoy centralized circuit bidding, procurement, monitoring, network expertise and router management services when purchasing connectivity from MOREnet
- Members benefit from our consortium E-rate filing and support
- Consortium members leverage reduced costs, technical expertise, centralized services, increased buying power and economies of scale

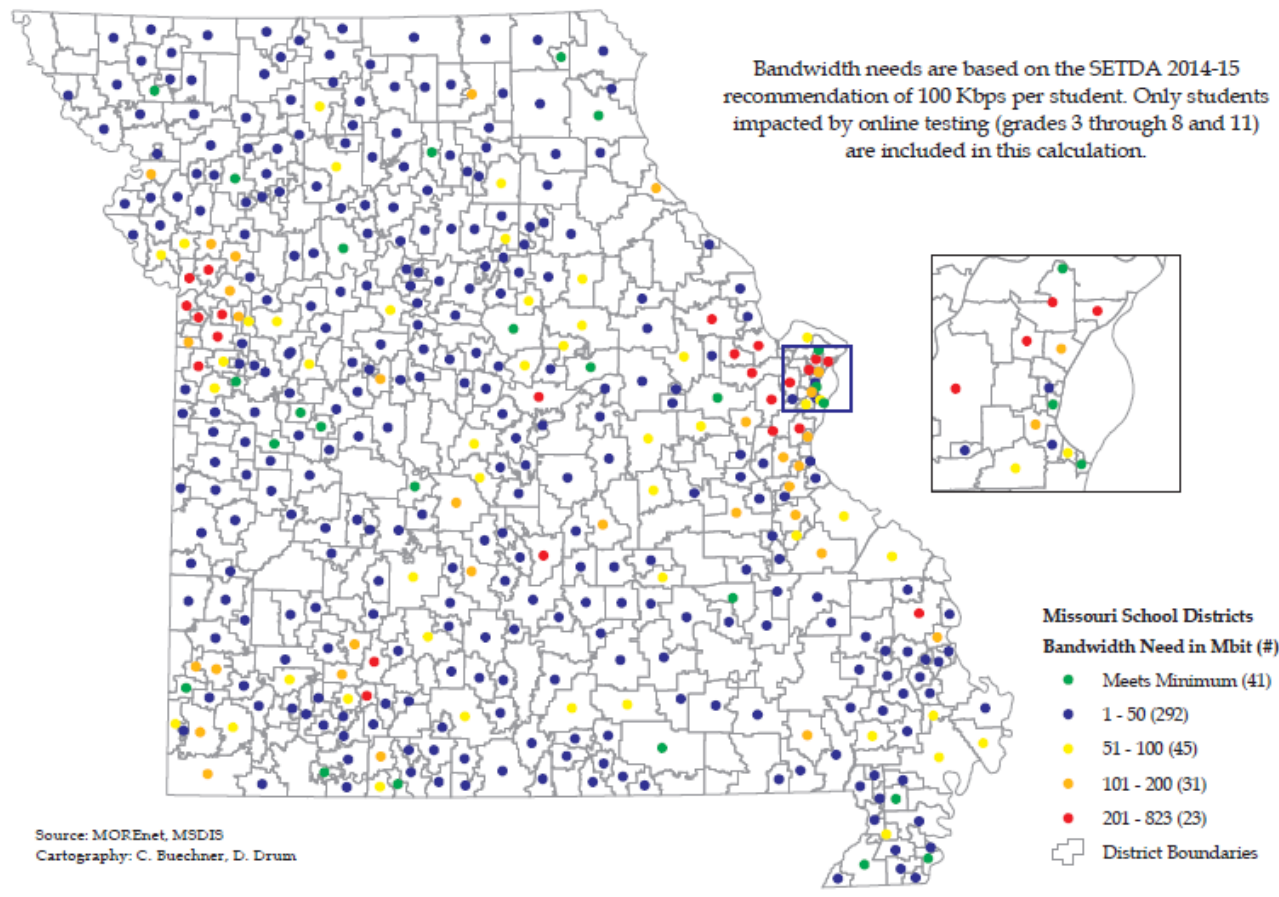


Benefits of Demand Aggregation in Missouri



Missouri Public K-12s Below SETDA's Recommended Bandwidth

Districts below Recommended Bandwidth



Average Kbps Per Missouri Student

	0-1,000 Students	1,001-5,000 Students	5,001-10,000 Students	> 10,000 Students
# of K12 Districts	306	122	17	17
Total Students	119,329	285,183	106,798	282,358
Avg Kbps / Student	30.5	25.3	35.4	24.8



E-Rate Eligible Circuits

	100 Mbps or greater	1 Gbps or greater	Ethernet *
K12 Districts	52	1	322
Libraries	2	0	102

* Some proportion of Ethernet connectivity is not fiber. Statistics not readily available.

